

WHAT IS CLAIMED IS:

1. A method of fixing a first piece of bone to a second piece of bone, comprising the steps of:

providing a pin having at least one laterally moveable distal anchor and a lumen extending therethrough;

advancing the distal anchor through the first piece of bone and into the second piece of bone while the distal anchor is permitted to move laterally inwardly as needed,

gripping with a deployment tool a proximal portion of a wire that extends axially through the lumen; and

moving with the deployment tool the wire axially through the lumen such that a distal portion of the wire resists radial inward deflection of the distal anchor, thereby locking the distal anchor with respect to lateral inward movement.

2. A method of fixing a first piece of bone to a second piece of bone as in Claim 1, wherein the step of moving with the deployment tool the wire axially through the lumen comprises moving a first body of the deployment tool with respect to a second body of the deployment tool.

3. A method of fixing a first piece of bone to a second piece of bone as in Claim 2, wherein the step of moving the first body of the deployment tool with respect to the second body of the deployment tool comprises one way ratchet-type motion.

4. A method of fixing a first piece of bone to a second piece of bone as in Claim 2, wherein the step of gripping with a deployment tool a proximal portion of a wire comprises moving ends of a pair of lever arms toward each other.

5. A method of fixing a first piece of bone to a second piece of bone as in Claim 4, wherein the step of moving the ends of a pair of lever arms towards each other comprises applying a proximal force to an opposite end of the pair of lever arms.

6. A method of fixing a first piece of bone to a second piece of bone as in Claim 5, wherein the proximal force is applied by the fingers of a hand holding the deployment tool.

7. A method of fixing a first piece of bone to a second piece of bone as in Claim 6, wherein the first and second bodies of the deployment tool extend between at least the fingers applying the proximal force.

8. A method of fixing a first piece of bone to a second piece of bone as in Claim 7, wherein the palm of the hand holding the deployment device prevents proximal movement of the second body with respect to the first body.

9. A method of fixing a first piece of bone to a second piece of bone as in Claim 1, wherein the step of gripping with a deployment tool a proximal portion of a wire comprises moving ends of a pair of lever arms toward each other.

10. A method of fixing a first piece of bone to a second piece of bone as in Claim 9, wherein the step of moving the ends of a pair of lever arms towards each other comprises applying a proximal force to an opposite end of the pair of lever arms.

11. A method of fixing a first piece of bone to a second piece of bone as in Claim 1, further comprising coupling the deployment tool to the pin and the before the distal anchor is advanced through the first piece of bone and into the second piece of bone.

12. A method of fixing a first piece of bone to a second piece of bone as in Claim 1, wherein the distal anchor is advanced completely through the first piece of bone and the second piece of bone.

13. A tool for inserting a bone fixation device, said tool comprising:

an elongate outer body having a proximal end, a distal end, and a longitudinal axis;

an elongate inner body having a proximal end, a distal end, and a longitudinal axis, said inner body being axially movable relative to said outer body;

a pin-receiving portion at the distal end of the outer body for releasable engaging a proximal pin of a bone fixation device;

a first lever pivotally mounted to the inner member at a first pivot axis;

a second lever pivotally mounted to the inner member at a second pivot axis;

each of said first and second levers comprising a gripping portion for gripping a wire that extends through the proximal pin of the bone fixation device.

14. The tool of Claim 13, wherein the gripping portions of the first and second levers are proximal to the first and second axes.

15. The tool of Claim 14, wherein said first axis and said second axis are disposed along a line which is perpendicular to the longitudinal axis of the outer body.

16. The tool of Claim 13, wherein the outer body and the inner body are substantially concentric.

17. The tool of Claim 13, wherein the tool is configured such that proximal motion of said first and second levers relative to said outer body results in the gripping portions of the first and second levers moving towards one another.

18. The tool of Claim 13, further comprising a spring configured to bias the inner body distally relative to the outer body.

19. The tool of Claim 13, wherein the pin receiving portion comprises a pin-gripping arm.

20. The tool of Claim 13, wherein the deployment tool further comprising complementary retention structures that allow proximal movement of the inner body with respect to the outer body but resists distal movement of the inner body with respect to the outer body.

21. The tool of Claim 20, wherein the complementary retention structure comprises a series of grooves and ridges that allow for ratchet-type proximal motion of the inner body with respect to the outer body.

22. The tool of Claim 20, further comprising a release button that releases the complementary retention structures such they do not resist distal movement of the inner body with respect to the outer body.

23. A tool for use with a bone fixation device comprising at least a pin with a distal anchor and a locking wire extending through the pin and configured to lock the distal anchor in an expanded configuration, said tool comprising:

a body having a proximal end and a distal end;

a gripping device configured to grip the locking wire of the bone fixation device, the gripping device comprising at least one finger grip portion; said gripping device being moveable with respect to the body;

a pin engagement portion at the distal end of the body, the pin engagement portion being configured to prevent proximal movement of the pin with respect to the locking wire of the bone fixation device;

said tool being configured such that providing a proximal force on the finger grip portions and a distal force to the body causes the guidewire of the bone fixation device to be gripped and proximally withdrawn with respect to the pin of the bone fixation device.

24. The tool of Claim 23, wherein the pin engagement portion is configured to removably receive a proximal pin of a bone fixation device.

25. The tool of Claim 23, further comprising a ratchet mechanism configured to allow proximal motion and resist distal motion of the finger grip portions relative to the body.

26. The tool of Claim 25, further comprising a release mechanism configured to release the ratchet mechanism allow distal motion of the finger grip portions relative to the body.